



UNITED STATES PATENT AND TRADEMARK OFFICE

A

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,246	08/28/2003	Frank Athari	IR-2311 (2-3643)	7190
2352	7590	12/27/2005	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			RUTLAND WALLIS, MICHAEL	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/650,246	ATHARI, FRANK	
	Examiner	Art Unit	
	Michael Rutland-Wallis	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because: page 1 lines 4 and 4 the word AMI should be changed to EMI, page 2 line 1 applicant improperly references a United States Patent and followed by what is believed to be an attorney or firm docketing number. In this instance application number 10/146,334 is now U.S. Pat. No. 6,690,230. An amendment to the specification to reflect this is required and to delete (IR-1744 (2-2597)).

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because figure 2 and parts of figure 1 contain informal hand drawn lines and elements. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the power transistor switching stage, the current sensor, the switch mode power supply and the converter

Art Unit: 2835

must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Also figure 1 contains a box pointing to the letter C. This arrow should be arranged to point to either the IN1 or IN2 terminal as the examiner understands the device.

The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1-9 are objected to as applicant claims a "power transistor switching stage" as no support or description can be found for this limitation it is suggested to change this limitation to "power supply". After a review of the specification and drawings only the transistor shown are Q1 and Q2, which are described to be part of the amplifier stage of the active EMI filter see page 4 lines 7-8. As It cannot be determined what is intended by a power transistor switching circuit and no power transistors are pictured or described for the purpose of examination of the merits a power transistor switching stage is interpreted as a power supply based on figure 1 which, shows a block diagram of the present invention wherein the input of the active EMI filter is connected to the output of the stage of a power supply, and based on the previous title of the provisional application.

It is also unclear if applicant indents a special definition of a power transistor to be something other than a transistor, which conducts electrical power.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 are objected to as applicant claims a “power transistor switching stage” as no support or description can be found for this limitation it is suggested to change this limitation to “power supply”. After a review of the specification and drawings only the transistor shown are Q1 and Q2, which are described to be part of the amplifier stage of the active EMI filter see page 4 lines 7-8. As It cannot be determined what is intended by a power transistor switching circuit and no power transistors are pictured or described for the purpose of examination of the merits a power transistor switching stage is interpreted as a power supply based on figure 1 which, shows a block diagram of the present invention wherein the input of the active EMI filter is connected to the output of the stage of a power supply, and based on the previous title of the provisional application.

It is also unclear if applicant indents a special definition of a power transistor to be something other than a transistor, which conducts electrical power.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by *IEEE Transactions on Power Electronics Vol. 9 No. 3* hereinafter "Volume 9". Volume 9 teaches a circuit arrangement comprising a power supply (Fig. 6 utility) providing an output voltage and an active EMI filter (shown in dashed lines) having an input and an output, the input of the active EMI filter connected to receive the output voltage and the output of the active EMI filter providing a filtered output voltage (see output of figure 6). Additionally see page 1 column 2 line 28 –page 3 column 1 line 2 where Volume 9 teaches the motivation to place the active EMI filter at the output stage of the supply to reduce the size of the components.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over *IEEE Transactions on Power Electronics Vol. 9 No. 3* in view of Huggett et al. (U.S. Pat. No. 6,414,866). While Volume 9 does not utilize inductor and a capacitor with the output voltage provided across the capacitor. Huggett teaches the use of inductor (item 140) and a capacitor (item 142) with the output voltage provided across the capacitor. It would have been obvious to one of ordinary skill in the art at the time of the invention to

modify Volume 9 to use the inductor and a capacitor with the output voltage provided across the capacitor in order to filter and smooth the voltage before inputting the voltage into the active EMI filter.

With respect to claim 6 Volume 9 is concerned with AC systems however if DC where to be input into the device of Volume 9 it would still operate effectively. Huggett teaches an EMI filter used with a DC power supply. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Volume 9 to use a DC power supply in order to filter out low frequency noise form a DC power supply.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over *IEEE Transactions on Power Electronics Vol. 9 No. 3* in view of Pelly (U.S. Pat No. 6,690,230). Volume 9 teaches the active EMI filter comprises an amplifier stage (see op-amps with the active EMI filter of Fig. 6) having two transistors. Volume 9 does not teach a current sensor, the current sensor sensing the presence of a common mode current to a load connected to the active EMI filter, and the amplification stage having a common connection coupled to an isolating capacitor coupled to a ground line, the isolating capacitor passing a current to cancel the common mode current in said ground line. Pelly teaches a current sensor (Fig. 2 item 15), the current sensor sensing the presence of a common mode current (column 3 line 45) to a load connected to the active EMI filter, and the amplification stage having a common connection coupled to an isolating capacitor (item 14) coupled to a ground line, the isolating capacitor passing a current to cancel the common mode current in said ground line. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device

of Volume 9 to include the use of a common mode current sensor in order to modulate and control the output to the load.

With respect to claim 4 Volume 9 shows an amplification stage contained within an active EMI filter but is silent on the components within. Pelly teaches an amplification stage wherein the transistors are complementary see transistors Q1 and Q2 of figure 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Volume 9 to include the use of complementary transistors in order properly operate the op-amp if it is held this is not the operation of Volume 9.

With respect to claim 5 Pelly teaches the ground line connects the load and the power transistor switching stage see figure 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to connect the ground line in such an away in order to provide a common ground for the system.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over *IEEE Transactions on Power Electronics Vol. 9 No. 3* in view of *Active EMI Filter for Switching Noise of High Frequency Inverters Vol. 1*. While Volume 9 does not teach the use of a converter or switched mode power supply *Active EMI Filter for Switching Noise of High Frequency Inverters* teaches the use of a converter or switch mode power supply in Figure 3. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Volume 9 to receive the output from these sources in order to filter out low frequency noise form a converter or switch mode power supply the filter is connected to.

Response to Amendment

Preliminary amendment to the specification has been entered as further describing the background and prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takashi et al. teaches a similar device to that of the claimed invention and Yin Ho et al. (U.S. Pub. No. 20040130923) teaches a similar device to that of claims 1 and 3.

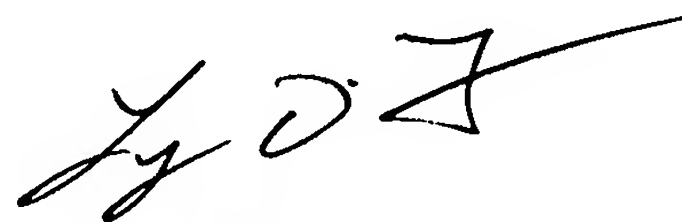
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2835

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRW



LYNN FEILD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800